

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room
CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 30 November 2000 (30.11.00)	
International application No. PCT/SE00/00849	Applicant's or agent's file reference 2008723
International filing date (day/month/year) 03 May 2000 (03.05.00)	Priority date (day/month/year) 04 May 1999 (04.05.99)
Applicant ROOS, Joachim	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
02 November 2000 (02.11.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer <p style="text-align: center; margin-top: 10px;">Manu Berrod</p> Telephone No.: (41-22) 338.83.38
---	--

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04Q 11/04, H04J 3/00		A1	(11) International Publication Number: WO 00/67519
		(43) International Publication Date: 9 November 2000 (09.11.00)	
(21) International Application Number: PCT/SE00/00849			(81) Designated States: AE, AG, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, DZ, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
(22) International Filing Date: 3 May 2000 (03.05.00)			
(30) Priority Data: 9901605-7 4 May 1999 (04.05.99) SE			
(71) Applicant (for all designated States except US): NET INSIGHT AB [SE/SE]; P.O. Box 42093, S-126 14 Stockholm (SE).			
(72) Inventor; and (75) Inventor/Applicant (for US only): ROOS, Joachim [SE/SE]; Kristinedalsvägen 32 B, S-131 46 Nacka (SE).			
(74) Agent: AWAPATENT AB; P.O. Box 45086, S-104 30 Stockholm (SE).			

Published

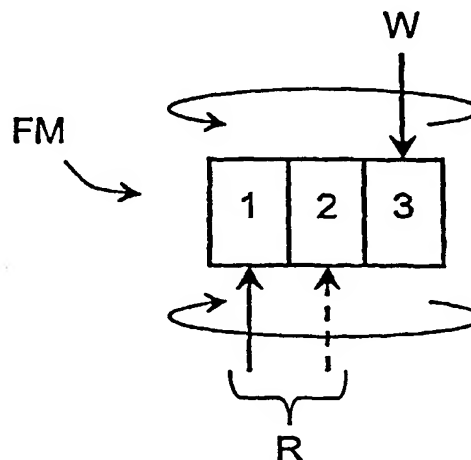
With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: BUFFER MANAGEMENT METHOD AND APPARATUS

(57) Abstract

The present invention relates to methods and an apparatus for switching data. According to the invention, storage means providing three or more frame buffers are used for temporarily storing frames of time slot data received via an input port of said apparatus. Read and write pointers are provided to designate which of said frame buffers that are used to be read/write accessed at each point in time. Control means are provided for controlling the operation of said pointer means, said control means being arranged initiate said read pointer means by detecting which one of said first signal and said second signal that is received first in time after a selected point in time and to control one or both of said pointer means so that, if said first signal is received first, the frame buffer designated by said write pointer means is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer means, or so that, if said second signal is received first, the frame buffer designated by said read pointer means is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer means.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece	ML	Mali	TR	Turkey
BG	Bulgaria	HU	Hungary	MN	Mongolia	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MR	Mauritania	UA	Ukraine
BR	Brazil	IL	Israel	MW	Malawi	UG	Uganda
BY	Belarus	IS	Iceland	MX	Mexico	US	United States of America
CA	Canada	IT	Italy	NE	Niger	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NL	Netherlands	VN	Viet Nam
CG	Congo	KE	Kenya	NO	Norway	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NZ	New Zealand	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	PL	Poland		
CM	Cameroon	KR	Republic of Korea	PT	Portugal		
CN	China	KZ	Kazakhstan	RO	Romania		
CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LI	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		
EE	Estonia						

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04Q 11/04, H04J 3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04Q, H04J, H04L, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5128929 A (TSUNEO KOBAYASHI), 7 July 1992 (07.07.92), column 2, line 56 - column 3, line 22; column 5, line 8 - line 59, figure 5, claims 1-2 --	1-26
A	US 4791629 A (C.A. BURNS ET AL), 13 December 1988 (13.12.88), column 13, line 10 - column 14, line 49; column 18, line 10 - line 52, claims 1-6, abstract --	1-26
A	US 5781533 A (THOMAS A. MANNING ET AL), 14 July 1998 (14.07.98), column 2, line 12 - line 54; column 11, line 12 - line 67, claims 1-7 --	1-26

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

1 Sept 2000

Date of mailing of the international search report

08 -09- 2000

Name and mailing address of the ISA/
Swedish Patent Office
Box 5055, S-102 42 STOCKHOLM
Facsimile No. +46 8 666 02 86

Authorized officer

Roger Bou Faisal/MN
Telephone No. +46 8 782 25 00

1,17,23

INTERNATIONAL SEARCH REPORT
Information on patent family members

08/05/00

International application No.

PCT/SE 00/00849

Patent document cited in search report			Publication date		Patent family member(s)		Publication date	
US	5128929	A	07/07/92	AU	619058	B	16/01/92	
				AU	4470189	A	24/05/90	
				JP	2094256	C	02/10/96	
				JP	2223251	A	05/09/90	
				JP	8017402	B	21/02/96	

US	4791629	A	13/12/88	NONE				

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/00849

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: H04Q 11/04, H04J 3/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04Q, H04J, H04L, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5128929 A (TSUNEO KOBAYASHI), 7 July 1992 (07.07.92), column 2, line 56 - column 3, line 22; column 5, line 8 - line 59, figure 5, claims 1-2 --	1-26
A	US 4791629 A (C.A. BURNS ET AL), 13 December 1988 (13.12.88), column 13, line 10 - column 14, line 49; column 18, line 10 - line 52, claims 1-6, abstract --	1-26
A	US 5781533 A (THOMAS A. MANNING ET AL), 14 July 1998 (14.07.98), column 2, line 12 - line 54; column 11, line 12 - line 67, claims 1-7 --	1-26



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

1 Sept 2000

Date of mailing of the international search report

08-09-2000

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Roger Bou Faisal/MN

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/00849

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4809261 A (REGINALD RATCLIFF), 28 February 1989 (28.02.89), column 1, line 49 - column 2, line 50, abstract --	1,17,23
A	WO 9207335 A1 (CRAY RESEARCH, INC.), 30 April 1992 (30.04.92), page 28, line 22 - page 35, line 11, claims 1-19 --	1,17,23
A	US 4005272 A (ARTHUR A. COLLINS ET AL), 25 January 1977 (25.01.77), column 1, line 4 - column 2, line 62, abstract -- -----	1,17,23

INTERNATIONAL SEARCH REPORT
Information on patent family members

08/05/00

International application No.
PCT/SE 00/00849

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5128929 A	07/07/92	AU 619058 B AU 4470189 A JP 2094256 C JP 2223251 A JP 8017402 B	16/01/92 24/05/90 02/10/96 05/09/90 21/02/96
US 4791629 A	13/12/88	NONE	

INTERNATIONAL SEARCH REPORT

Information on patent family members

08/05/00

International application No.

PCT/SE 00/00849

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	5781533	A	14/07/98	AU	6500796 A	18/02/97
				AU	6500896 A	18/02/97
				AU	6500996 A	18/02/97
				AU	6501096 A	18/02/97
				AU	6501496 A	18/02/97
				AU	6501696 A	18/02/97
				AU	6501796 A	18/02/97
				AU	6501996 A	18/02/97
				AU	6502096 A	18/02/97
				AU	6502496 A	18/02/97
				AU	6502596 A	18/02/97
				AU	6502696 A	18/02/97
				AU	6502796 A	18/02/97
				AU	6503196 A	18/02/97
				AU	6503296 A	18/02/97
				AU	6503396 A	18/02/97
				AU	6503496 A	18/02/97
				AU	6503596 A	18/02/97
				AU	6503696 A	18/02/97
				AU	6503796 A	18/02/97
				AU	6549196 A	18/02/97
				AU	6549296 A	18/02/97
				AU	6648496 A	18/02/97
				AU	6648796 A	18/02/97
				AU	6712496 A	18/02/97
				AU	6712596 A	18/02/97
				AU	6761896 A	18/02/97
				AU	6762096 A	18/02/97
				EP	0839419 A	06/05/98
				EP	0839420 A	06/05/98
				EP	0839421 A	06/05/98
				EP	0839422 A	06/05/98
				EP	0845181 A	03/06/98
				EP	0872086 A	21/10/98
				JP	11510003 T	31/08/99
				JP	11510004 T	31/08/99
				JP	11510005 T	31/08/99
				JP	11510006 T	31/08/99
				JP	11510007 T	31/08/99
				JP	11510008 T	31/08/99
				JP	11510009 T	31/08/99
				JP	11510010 T	31/08/99
				JP	11510011 T	31/08/99
				JP	11510012 T	31/08/99
				JP	11510013 T	31/08/99
				JP	11510014 T	31/08/99
				JP	11510323 T	07/09/99
				JP	11510324 T	07/09/99
				JP	11510327 T	07/09/99
				JP	11510328 T	07/09/99
				JP	11510329 T	07/09/99
				JP	11510330 T	07/09/99
				JP	11510331 T	07/09/99
				JP	11511303 T	28/09/99
				JP	2000501897 T	15/02/00

INTERNATIONAL SEARCH REPORT

Information on patent family members

08/05/00

International application No.

PCT/SE 00/00849

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	5781533	A	14/07/98	JP	2000501900 T	15/02/00
				JP	2000501901 T	15/02/00
				JP	2000501902 T	15/02/00
				US	5748629 A	05/05/98
				US	5787086 A	28/07/98
				US	5790770 A	04/08/98
				US	5822540 A	13/10/98
				US	5850395 A	15/12/98
				US	5862137 A	19/01/99
				US	5867663 A	02/02/99
				US	5870538 A	09/02/99
				US	5872769 A	16/02/99
				US	5889956 A	30/03/99
				US	5896511 A	20/04/99
				US	5905729 A	18/05/99
				US	5909427 A	01/06/99
				US	5917805 A	29/06/99
				US	5933429 A	03/08/99
				US	5948067 A	07/09/99
				US	5956342 A	21/09/99
				US	5978359 A	02/11/99
				US	5982771 A	09/11/99
				US	5982776 A	09/11/99
				US	5983260 A	09/11/99
				US	5996019 A	30/11/99
				US	6002667 A	14/12/99
				WO	9703549 A	06/02/97
				WO	9704397 A	06/02/97
				WO	9704541 A	06/02/97
				WO	9704542 A	06/02/97
				WO	9704543 A	06/02/97
				WO	9704544 A	06/02/97
				WO	9704546 A	06/02/97
				WO	9704548 A	06/02/97
				WO	9704549 A	06/02/97
				WO	9704552 A	06/02/97
				WO	9704554 A	06/02/97
				WO	9704555 A	06/02/97
				WO	9704556 A	06/02/97
				WO	9704557 A	06/02/97
				WO	9704558 A	06/02/97
				WO	9704559 A	06/02/97
				WO	9704560 A	06/02/97
				WO	9704561 A	06/02/97
				WO	9704562 A	06/02/97
				WO	9704563 A	06/02/97
				WO	9704564 A	06/02/97
				WO	9704565 A	06/02/97
				WO	9704566 A	06/02/97
				WO	9704567 A	06/02/97
				WO	9704568 A	06/02/97
				WO	9704569 A	06/02/97
				WO	9704570 A	06/02/97
				WO	9704571 A	06/02/97

US	4809261	A	28/02/89	NONE		

INTERNATIONAL SEARCH REPORT
Information on patent family members

08/05/00

International application No.
PCT/SE 00/00849

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
WO	9207335	A1	30/04/92	AT	116456 T	15/01/95
				DE	69106384 D,T	10/08/95
				EP	0553158 A,B	04/08/93
				JP	6502033 T	03/03/94

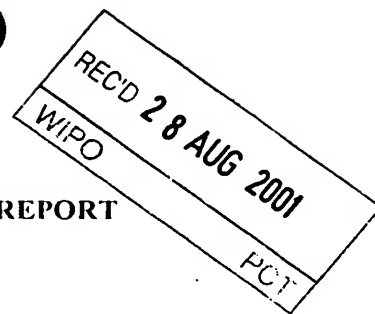
US	4005272	A	25/01/77	NONE		

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference PC-2008723	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IEA/416)	
International application No. PCT/SE00/00849	International filing date (day month year) 03.05.2000	Priority date (day month year) 04.05.1999
International Patent Classification (IPC) or national classification and IPC H04Q 11/04, H04J 3/00		
Applicant Net Insight et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 02.11.2000	Date of completion of this report 03.08.2001
Name and mailing address of the IEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer Roger Bou Faisal/LR Telephone No. 08-782 25 00

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/00849

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/ or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheet/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/SE00/00849

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	<u>1-26</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-26</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-26</u>	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

[D1] US 5128929, A
[D2] US 4791629, A
[D3] US 5781533, A
[D4] US 4809261, A
[D5] WO 9207335, A1
[D6] US 4005272, A

The documents cited in the International Search Report represent the prior art. The claimed invention stated in claims 1-26 is not considered to be anticipated by these documents. None of the documents or any relevant combination of them reveal a method for controlling data transfer, switching data and buffering data in such a way as described by these claims.

According to the arguments stated above, the invention claimed in claims 1-26 is novel, considered to involve an inventive step and have industrial applicability.